

## Motorized Dual Deckle Automates Width Changes and Reduces Downtime in Extrusion

A new dual-deckle system that EDI is introducing at K 2007 enables extrusion coating processors to automate width changes, increase the precision of deckle settings, reduce or eliminate manual adjustment, and cut downtime between job changeovers.

The external mechanism is one of two innovations:

- **Motorized drives with built-in edge bead control.** An AC motor drives the external deckle and the primary internal deckle as a single unit, while a smaller motor drives a secondary internal deckle that fine-tunes the flow at either end of the die, minimizing the formation of edge bead. Besides reducing the time needed to change width settings, motorization makes it possible to run the deckle as part of a computerized processing system.

- **Spring-loaded external deckle.** With standard external deckles, operators needed to loosen and tighten fasteners for every change in product width. EDI has replaced this system with a spring-loaded device that provides constant pressure at the lips of the die while permitting width changes with little or no manual adjustment.

“Motorizing and automating the process of changing width enables extrusion coating processors to return to exactly the same deckle settings every time they run a particular product,” says Jeff

Seckora, product manager. “Besides helping to make this automation possible, the spring-loaded external device goes a long way toward EDI’s ultimate goal of transforming width variation into a hands-free operation.”

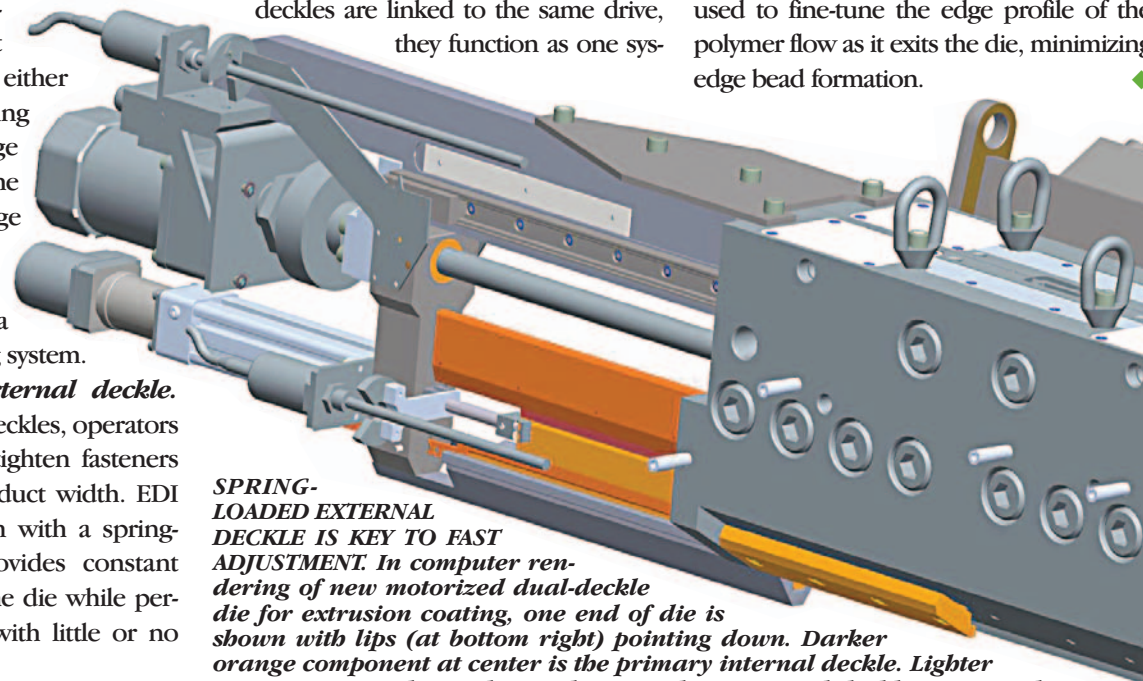
### Dual Deckles Combine Benefits of Two Systems

Dual deckles combine an internal deckle (which blocks flow with blades from the manifold to the die lips) and an external deckle (a wedge-shaped device which seals off the die gap from outside). Because the deckles are linked to the same drive, they function as one system.

In addition, they substantially reduce polymer leakage from the die.

External deckles provide more effective seals but create stagnant areas behind the deckle barrier and tend to promote the formation of relatively large edge beads along either edge of the coating. The bead must be trimmed away as scrap, wasting polymer and substrate.

Internal deckles completely seal off the ends of the internal flow channels of the die, eliminating areas of stagnation. In addition, because the deckle actually consists of independently adjustable blades, it can be used to fine-tune the edge profile of the polymer flow as it exits the die, minimizing edge bead formation. ♦



**SPRING-LOADED EXTERNAL DECKLE IS KEY TO FAST ADJUSTMENT.** In computer rendering of new motorized dual-deckle die for extrusion coating, one end of die is shown with lips (at bottom right) pointing down. Darker orange component at center is the primary internal deckle. Lighter orange one just beneath it is the secondary internal deckle. Gray wedge-shaped component beneath these parts is the external deckle. Three cylindrical components at far left are (from top to bottom): 1) a sensor that monitors the position of the primary internal deckle; 2) the main motor, which drives the primary internal deckle and the external deckle; and 3) a smaller motor for driving the secondary internal deckle. Partially visible to the right of the smaller motor is a sensor for the secondary internal deckle.

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- Sales, technical service, customer service, spare parts, and other departments.

- Agents in our worldwide sales & service network.
- Remanufacturing facilities in the U.S.A., Germany, China, and Japan.
- Visiting EDI headquarters.

**Extrusion Dies Industries, LLC** is a leading international supplier of flat dies for sheet and film, coating, and pelletizing. We draw on extensive engineering capabilities to design systems that are highly tailored to specific customer needs. Headquartered in Chippewa Falls, Wisconsin, U.S.A., we sell half of our dies to customers in other nations around the world.

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ISSUE NO. 16

### New EDI Sales Manager for Europe and Mideast

Making his EDI debut at K in the new position of European sales manager is Andrei Stapinoiu, whose name is already familiar to some customers.



**Stapinoiu**

Andrei is based in the United Kingdom and will serve customers throughout Europe (including Russia) and the Mideast. He will work closely with EDI’s long-standing agents in these regions and with EDI GmbH, the company’s subsidiary headquartered in Germany.

“Andrei has already worked with many of our European customers and agents in his previous position as a marketer of film and sheet gauging systems,” says Christopher W. Curtin, EDI executive vice president of sales and marketing. “His experience in the extrusion processing and web converting industries and extensive background in international business will make him a valuable resource for our customers.”

Stapinoiu comes to EDI from EGS Gauging Ltd. (formerly Eurotherm), the supplier of measurement and control systems for web processes. He served that company for five years as sales and marketing director for western and central Europe, Russia, and the Mideast. In previous positions with other industrial companies, he held business development and sales responsibilities and supervised projects in Europe and the Mideast.

Andrei Stapinoiu holds a Master of Science degree in manage- *Continued on P. 3.*

## EDI at K 2007: New Products and Services For Every Customer

“The innovations that EDI plans to highlight at K 2007 are so numerous that virtually anyone who visits us will come away with information about some valuable new resource for film, sheet, or coating.”

This is how EDI president and CEO Timothy C. Callahan sums up the range of advances by the company in the three years since the last K show, including exciting developments just since the start of 2007. As always at K, technology is the star of the show. EDI will feature these innovative systems and services:

- The uniquely shaped Contour Die™

for cast film, which prevents clamshelling without sacrificing streamlined flow.

- A new motorized dual deckle for extrusion coating that automates width changes and reduces downtime between jobs (see article on back page).

- Revolutionary “layer-multiplier” technology for micro-layer extrusion, yielding barrier and other film and sheet of standard thickness but with an order of magnitude more layers than conventional products. The process yields structures that improve moisture and gas barrier, encapsulate gels, and enable manufacturers to make more *Continued on P. 3.*

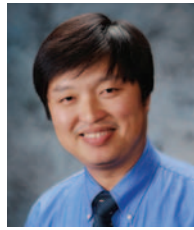


**LABS THAT SAVE MATERIAL AND PREVENT DOWNTIME.** Laboratory extrusion line shown here is one of three at EDI’s Wisconsin headquarters that customers can rent for product development and testing. Lines are for film, extrusion coating, and slot die coating.

## EDI China Opens as Full-Service Rework and Customer-Support Center in Shanghai

**T**he many users of EDI dies across China now have an expert local source for the rework services that are critical for keeping all extrusion processors and web converters up and running.

EDI has established a new wholly-owned subsidiary in Shanghai, EDI Precision Dies (Shanghai) Co., Ltd. (or EDI



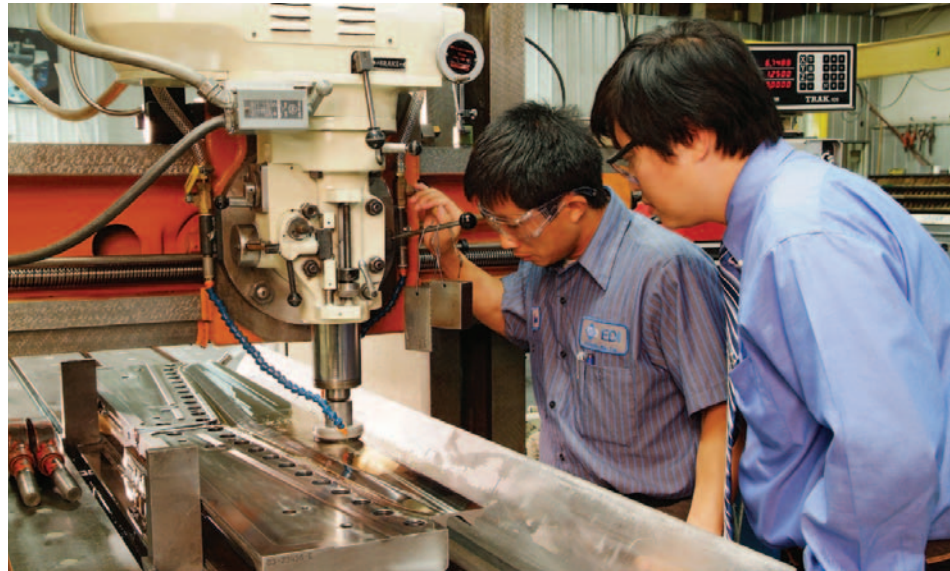
Jason Yin

China), to provide rework, technical support, and spare parts. General manager of EDI China is Jason Q. Yin, a native of China with extensive engineering experience in China and North America. He supervises operation of a 1,000 sq.m facility at Songjiang, about 25 km from downtown Shanghai. EDI China will also provide sales support for EDI's longtime agent in China, Kodama Chemical Industry, Co. Ltd.

Like EDI's successful EDI GmbH subsidiary in Europe, the Shanghai operation can carry out both standard rework procedures like cleaning, lip sharpening, and refinishing and major upgrades such as converting a die from a manual gauge profiling system to an automated one using EDI's Autoflex® technology.

"Besides providing local access to technical service and rework service for users of the hundreds of EDI dies operating in the region, EDI China will ensure new customers that our full support is readily available long after the sale," says Timothy C. Callahan, EDI president and CEO.

EDI China draws on the same advanced technologies as those employed by EDI in the U.S., according to Jason Yin. "The Shanghai plant is equipped with systems for machining complex flow-surface geometries and close-tolerance surface flatness," says Yin. "We have full access to EDI's engineering database, employ the same inspection and quality control procedures, and deliver the same excellent service as that available from our parent company."



**ADVANCED MACHINING FOR DIE REWORK.** Photo shows one of the machining systems used for remanufacturing dies at the EDI China plant in Shanghai. The facility includes systems for machining complex flow-surface geometries and close-tolerance surface flatness. Joining the technician at the above system is Jason Q. Yin (at right), general manager of EDI China.

### Jason Yin Brings Expertise to Role at EDI China

Jason Yin is in charge of financial and operational management of EDI China and supervises an initial staff of ten technical service and manufacturing specialists. Before assuming these responsibilities, he worked for EDI for two years, serving as a consultant and as coordinator of the project to establish EDI China. Born and raised in China, he has worked for 17 years as an engineer in both China and North America.

From 1990 to 1999, Jason Yin held technical service, training, design, and production positions with three manufacturing firms in China. He went on to work for

two companies in the computer industry in the U.S. and Canada, respectively, before working as a research and teaching assistant in the Mechanical Engineering Department of McMaster University, Hamilton, Ontario. He holds a bachelors degree from East China Jiaotong University and a masters degree in engineering from McMaster University.

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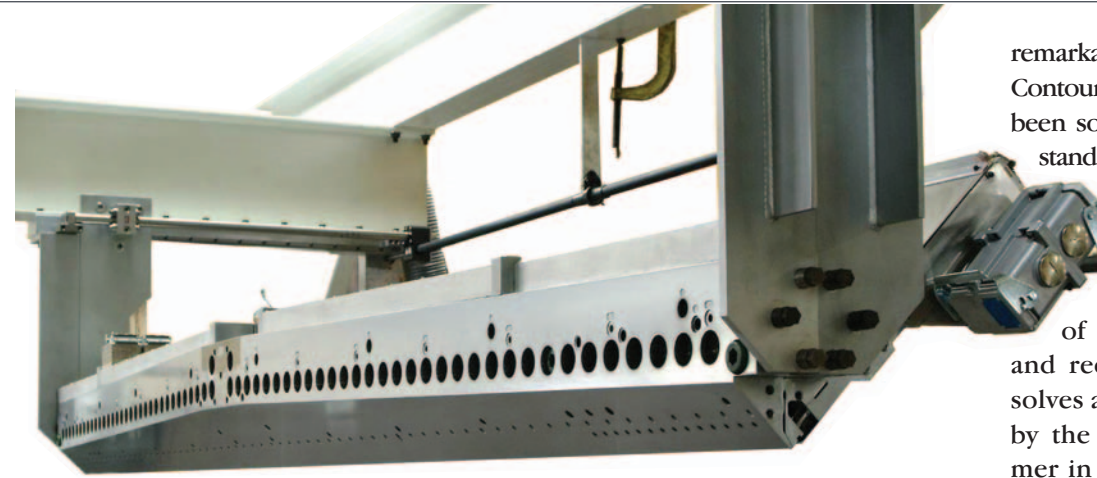
### In Memoriam: Andreas Sannert

Andreas will be sadly missed by many of our customers and friends who visit us at K 2007. In February of this year, he died in an accident at his home when a tractor he was driving overturned. He was 40 years old and left a wife and three children.

Andreas Sannert was general manager of EDI GmbH, but his association with EDI had begun as far back as 1992, when he joined Extrusion Dies Service, the company that at the time represented us in German-speaking countries. EDI established EDI GmbH as a subsidiary in 2003, and under his leadership its business grew substantially.

Andreas was widely known by users of flat die systems in Germany and throughout Europe and was respected for his technical expertise and understanding of customer needs. His untimely death means the loss of a skilled manager, gifted colleague, and valued friend.

*Timothy C. Callahan, EDI President & CEO.*



**UNIFORM DEFLECTION PLUS STREAMLINED FLOW:** The unique shape of the Contour Die™ helps prevent the product distortion called 'clamshelling' while making possible use of a coat-hanger manifold for streamlined melt flow.

### Major EDI Initiatives Highlighted at K 2007

"The period since the last K show has been one of unprecedented growth for EDI," notes Christopher W. Curtin, executive vice president of sales and marketing, "and this has provided the impetus for important company initiatives in 2007."

● **EDI China.** In May EDI announced the establishment of this Shanghai-based company as a wholly-owned subsidiary in Shanghai to provide technical support, rework service, and spare parts for flat extrusion and coating dies built by EDI in the U.S.

● **Liberty™ Slot Coating Dies.** In February, EDI purchased Liberty Coating Equipment, a manufacturer of slot die systems, and has since moved all of Liberty's manufacturing equipment to EDI world headquarters in Wisconsin, U.S.A. Liberty engineer Tom Johns has also joined EDI as product manager for Liberty™ dies (the tradename has been retained). These fixed-lip dies enable converters to produce very thin and optically clear coatings while maintaining coat weights within close tolerances. They complement EDI's longstanding range of Ultracoat® adjustable lip slot coating dies. Both dies are available in EDI's new "Modular Coating System," a slot die coating station that rolls into place on a coating line, speeding the switch back and forth between slot die and conventional roll coating.

### Contour Die™ To Be Shown by EDI

"Certainly one of the biggest success stories that we'll be sharing at K is the

remarkable industry acceptance of the Contour Die™," says Curtin. "Response has been so uniformly positive that EDI has standardized on the Contour Die design for all of its cast film systems."

The Contour Die design, invented by John A. Ulcej, EDI executive vice president of engineering and technology, and recently awarded a U.S. patent, solves a longstanding problem caused by the pressure of the molten polymer in the flow channel between the die bodies. In conventional dies, this pressure causes non-uniform die body deflection, which in turn causes the product distortion called clamshelling.

"While it is possible to correct the problem with the lip-adjustment system on the die, the frequent adjustments required when there are many small-run jobs cause a substantial loss in productivity," Ulcej says. "The problem is even more serious in coextrusion, since lip adjusters cannot correct the distortions at the interface between layers."

The Contour Die has a unique tapered shape: thicker in the center, where the bending force is greater, than at the ends. This design not only yields uniform die body deflection but enables EDI to retain the triangle-shaped "coat hanger" manifold that is widely used in the industry because it promotes a streamlined flow of molten polymer through the die.

EDI will exhibit a Contour Die at K, for cast film: a 2,700-mm Autoflex VI-R die with an Ultraflow® I feedblock. ♦

### Stapinoiu Continued from P. 1

ment from Purdue University in the U.S.A. and a B.Sc. in Sales and Marketing and an MBA degree from Budapest University. He speaks English, French, Russian, and his native Romanian.

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